REMARKS

Telephonic Interviews

As an initial matter, the undersigned would like to thank Examiners Kaushal and Woitach for their participation in two additional telephonic interviews with the undersigned and Dr. Monica Gerber of the Whitehead Institute. During these interviews, the participants discussed clarifying the claims to remove ambiguities that could result in the claims reading on Ginaven. While Applicant maintains that no such ambiguities exist in the claims prior to amendment, Applicant has amended claim 160 and added new independent claims 253, 259, 265, and 271. In the second interview with Examiners Kaushal and Woitach, which took place on March 18, 2008, Examiners Kaushal and Woitach stated that their preliminary view was that the amendment to claim 160 (submitted in draft form prior to the interview) addressed their concerns regarding Ginaven, but that an additional search may be required prior to allowing the claims.

Support for amendments

Support for the amendment to claim 160 and for new claim 271 is found throughout the specification, from which it is evident that the transfected cell arrays grow on a surface suitable for maintaining eukaryotic cells in culture (see, e.g., original claim 5 as well as paragraphs 13, 38, and 249). Support for new claims 253, 259, and 265 is found at paragraph 121, which recites, "[t]he cells may be dispersed in culture, or can be tissues samples containing multiple cells which retain some of the microarchitecture of the organ."

The claims are novel over Ginaven

During the telephonic interview with Examiners Woitach and Kaushal, the undersigned discussed how each of the independent claims is novel over Ginaven. A summary of this discussion is provided below.

Amended claim 160 recites that the eukaryotic cells are arranged with respect to the surface such that cells are capable of becoming transfected with the one or more

defined nucleic acid molecules when the array is maintained for a suitable period of time to form an array comprising transfected eukaryotic cells growing in culture on the surface. In Ginaven, the tip of a microneedle, which corresponds to the "surface" in claim 160, is not taught as being a suitable surface on which cells can be grown. For at least this reason, claim 160 is novel over Ginaven.

Claim 253 recites that "the eukaryotic cells are not present in tissue." The cells disclosed by Ginaven are present in tissue. For at least this reason, claim 259 is novel over Ginaven.

Claim 259 recites that, "the eukaryotic cells were in a dispersed state prior to forming the array." Similarly, claim 265 recites that the array was made "by a process comprising plating dispersed eukaryotic cells onto a surface having nucleic acids affixed thereto in discrete locations." Again, the cells disclosed by Ginaven are present in a tissue. Ginaven does not introducing nucleic acids into dispersed cells. It is evident that dispersed cells could not be used to make the product disclosed by Ginaven by any type of process. Use of dispersed cells and a microneedle array would result in a materially different product to that disclosed by Ginaven. The microneedles disclosed by Ginaven have a diameter of appropriate size to inject target cells. Such dimension must be significantly smaller than the diameter of the cell (see Ginaven, Fig. 1). Therefore, attempting to place dispersed cells on the surface disclosed by Ginaven would result in cells located on the surface around the base of the needles, which lacks affixed nucleic acids, rather than at the needle tips. The eukaryotic cells would not be on top of the nucleic acids cells and would not be capable of becoming transfected with the one or more defined nucleic acid molecules as recited in the instant claims. For at least these reasons, claims 259 and 265 are novel over Ginaven.

Claim 271 recites that the location on which the nucleic acids are located is suitable for maintaining the eukaryotic cells in culture for at one cell cycle. The tips of the needle array taught by Ginaven (i.e., the locations of the nucleic acids taught by Ginaven) is not suitable for maintaining cells in culture. Ginaven expressly teaches that,

> In the method of delivery of biological substances using the needle array described herein, it is preferred that cell membrane perforations remain open for only a fraction of a second in order to minimize damage to the integrity of the cells comprising, for instance, meristem tissue. ... Therefore a very rapid linear motion is preferred to effect puncture and withdrawal of the tip portions of the needle array from the cell during delivery of biological materials contained on the needle tips or on micro-particles carried by the needle tips. (col. 4, lines 45-55).

In contract, the locations of the array taught by Applicant are suitable for maintaining cells in culture for at least one cell cycle. For at least this reason, claim 271 is novel over Ginaven.

CONCLUSION

Applicant submits that the claims are in condition for allowance, and such action is respectfully requested.

Enclosed is a Petition to extend the period for replying to the Office action for three months, to and including March 20, 2008, and a check in payment of the required extension fee. If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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